

REMARKS

Claims 1-18 were presented and examined. In response to the Office Action, Claims 1-3 and 10-12 are amended. No claims are added or cancelled. Claims 1-18 remain in the application.

Rejections of the Claims under 35 U.S.C. § 103

A. Claims 1-4 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bormans, et al., *"MPEG-21 Overview v.4"* ("Bormans") in view of Trivi, et al., *"Rendering MPEG-4 AABIFS Content Through a Low-Level Cross-Platform 3D audio API,"* ("Trivi") and Lokki, et al., *"Creating Interactive Virtual Auditory Environments,"* ("Lokki").

Applicants amend independent Claim 1 to incorporate all of Claim 2 and a portion of Claim 3, and amend independent Claim 10 to incorporate all of Claim 11 and a portion of Claim 12. Amended Claims 1 and 10 include the elements of "wherein the impulse response preference information further includes sampling frequency preference information, bits per sample preference information, and number of channels preference information of the impulse response," as well as other features that more clearly characterize the sound adapting operations.

The Examiner relies on Lokki for disclosing the convolution between an impulse response and an audio signal. The Examiner also relies on Bormans for disclosing the MPEG-21 and Trivi for disclosing the modeling of sound fields with an impulse response and perceptual parameters. However, none of these references disclose the specific contents in the recited impulse response preference information, which include sampling frequency preference information, bits per sample preference information, and number of channels preference information of the impulse response.

In the rejection of Claim 3, the Examiner relies on Lokki for disclosing the sampling frequency preference information, bits per sample preference information, and number of channels preference information. Lokki discloses the use of filters to perform an auralization process. The input parameters are filter coefficients or the lengths of delays (page 54, "Auralization and Signal Processing"). Lokki does not disclose that an audio signal can be adapted for a user, using impulse response preference information that includes sampling frequency preference information, bits per sample preference information, and number of channels preference information. The filter coefficients or the lengths of delays disclosed by

Lokki are not based on user preference. Rather, they are determined based on materials or material combinations in the audio model. The filter coefficients or the lengths of delays are different from the sampling frequency preference information, bits per sample preference information, and number of channels preference information, as recited in amended Claims 1 and 10. Other cited references do not supply the missing elements. Thus, for at least the reasons mentioned above, Claims 1 and 10, as well as their respective dependent claims, are non-obvious over the cited references.

Accordingly, withdrawal of the rejection of Claims 1-4 and 10-13 is requested.

B. Claims 5-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bormans, Trivi, and Lokki in view of Vaananen, et al. "*Synthetic Audio Tools in MPEG-4 Standard*," ("Vaananen").

Claims 5-9 and 14-18 depend from Claims 1 and 10, respectively. Thus, Bormans, Trivi, and Lokki do not teach or suggest each of the elements of these claims for at least the reasons mentioned above.

Vaananen is relied on for disclosing perceptual parameters. However, Vaananen does not supply the missing elements in Bormans, Trivi, and Lokki regarding the recited elements of "wherein the impulse response preference information further includes sampling frequency preference information, bits per sample preference information, and number of channels preference information of the impulse response." Thus, Claims 1 and 10, as well as their respective dependent claims, namely, Claims 5-9 and 14-18 are non-obvious over the cited references. Accordingly, withdrawal of the rejection of Claims 5-9 and 14-18 is requested.


CONCLUSION

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

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